

WE CLAIM

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1. A peripheral device for use with a computer system comprising:
a housing adapted to fit within a user's palm and slide over a medium;
an optical sensor having plural sensing elements and producing image signals;
a lens for imaging the medium onto the sensor;
circuitry coupled to the sensor and disposed within the housing for processing the
signals from the sensor and producing corresponding output data; and
transfer means for relaying the output data from the peripheral device to the
computer system;
- 10 wherein said sensor is useful in acquiring optically-encoded multi-bit information
from said medium for use by said computer system.
2. The device of claim 1 in which the transfer means is a cable.
- 15 3. The device of claim 1 in which the transfer means is a wireless link.
4. The device of claim 1 in which the circuitry analyzes the image signals and
produces multi-bit information corresponding thereto.
- 20 5. The device of claim 1 in which the circuitry comprises a decoder for
discerning steganographically-encoded information represented in said image signals.
6. The device of claim 1 in which the optical sensor comprises a 1D array of
sensor elements.
- 25 7. The device of claim 1 in which the optical sensor comprises a 2D array of
sensor elements.
8. The device of claim 1 in which said circuitry is integrated on a common
substrate with said sensing elements.
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9. The method of claim 1 in which the optically encoded information comprises a plural-bit identifier.

5 10. A method of interacting with printed material using a peripheral device, the peripheral device providing positional data to an associated computer and including an optical sensing system comprising plural optical sensing elements, the method comprising:

positioning the device over the printed material;

10 generating optical sensor data from said optical sensing system, said data corresponding to a machine-readable indicia formed on the printed material;

processing said optical sensor data to produce plural-bit data corresponding to said machine-readable indicia; and

providing said plural-bit data to said computer.

15 11. The method of claim 10 which includes performing a steganographic decoding process on the optical sensor data to obtain said plural-bit data.

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